

ABSTRACT OF THE DISCLOSURE

A combined semiconductor apparatus includes a semiconductor substrate having an integrated circuit, a planarized region formed in a surface of the semiconductor substrate, and a semiconductor thin film including at least one semiconductor device and bonded on the planarized region. A surface of the semiconductor thin film, in which the semiconductor device is formed, is disposed on a side of the planarized region. The apparatus may further include a planarized film disposed between the planarized region and the semiconductor thin film.